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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,366	11/28/2000	Prathima Agrawal	APP 1276-US	6316

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TELCORDIA TECHNOLOGIES, INC.
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EXAMINER

MILLS, DONALD L

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/723,366

Applicant(s)

AGRAWAL ET AL.

Examiner

Donald L Mills

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference signs not mentioned in the description: “21_k,” “21₃,” “10₁,” and “21₁” (See Figure 1A;) “100₁,” “100₂,” and “100₃” (See Figure 1D.)

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference signs mentioned in the description: “20” (See page 18, line 12,) “456,” and “469” (See page 24, lines 4 and 20.) A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim specifies *processing a layer* (See claim 1, line 3.) However, the specification describes processing data from a layer not the layer itself (See page 14, lines 19-21).

Regarding claim 17, the claim recites the limitation "said base station" (See claim 17, line 6). There is insufficient antecedent basis for this limitation in the claim. It is unclear whether *said base station* refers to the serving base station or the target base station.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bollinger et al. (US 5,278,892), hereinafter referred to as Bollinger.

Regarding claim 1, Bollinger discloses a mobile telephone system call processing arrangement for soft hand-off, which comprises:

Processing a layer at a first node to produce remote layered data packets (Referring to Figure 3, at cell 202 every digital radio's signal input and output are interfaced to TDM bus 140. See column 11, lines 36-38.)

Transmitting said remote layered packets to a second node (Referring to Figure 3, cluster controller 244 queues traffic segments received from channel elements 245. See column 13, lines 29-31.)

Art Unit: 2662

Transporting, at said second node, said remote layered packets to a target node

(Referring to Figure 3, cluster controller 244 receives LAPD frames from its allocated input “pipe” on TDM bus 140 and then distributes the contents of these packets to channel elements 245 according to an address field embedded in the received frames. See column 13, lines 36-41.)

Regarding claim 6, Bollinger discloses a mobile telephone system call processing arrangement for soft hand-off, which comprises:

Establishing a cross layer tunnel between the serving base station and the base target station (Referring to Figure 23, notification is sent from the first service node to the second service node, inherently comprising serving base station and destination base station, and in response a packet-switched call path is setup. See column 4, lines 16-20.)

Transmitting, over the air, data from the serving base station to the mobile (Referring to Figure 23, notification is sent from the first service node to the second service node, inherently comprising transmitting data from the serving base station to the mobile station. See column 4, lines 16-20.)

Sending copies of said transmitted data from the serving the base station to the target base station through the cross layer tunnel (Referring to Figure 23, duplicate call traffic of the call is communicated between both the first and second service nodes across the packet-switched call paths. See column 4, lines 23-27.)

Transmitting, over the air, said sent data copies from the target base station to the mobile (Referring to Figure 23, duplicate call traffic of the call is communicated between both the first and second service nodes across the packet-switched call paths and the mobile user terminal,

Art Unit: 2662

inherently comprising sending duplicate data from the destination base station to the mobile terminal. See column 4, lines 31-34.)

Combining, at the mobile, said copied data from the target base station with the data from the serving station to perform soft handoff (Referring to Figure 19, a second cell **202** commences to handle the call in parallel with cell **202**, inherently comprising combining duplicate traffic from the packet-switched call path and neighboring cell at the mobile user terminal, for a soft handoff. See column 30, lines 37-40.)

7. Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Schneider (US 6,570,871 B1).

Regarding claim 12, Schneider discloses an Internet telephone service, which comprises:

Means for receiving an encapsulated packet from an Internet protocol network

(Referring to Figures 8A and 8B, packet assembler/disassembler (PAD) **218** receives data from IP packets. See column 17, lines 38-40.)

Means for demultiplexing said encapsulated packet to produce a packet having data and a label (Referring to Figures 8A and 8B, the PAD **218** extracts the payload data of the digital voice sample segments comprising a destination identified by the packet. See column 17, lines 40-45.)

Means for transmitting said data over the air to a mobile based on said label included within said packet (Referring to Figures 8A and 8B, the MSC routes the digital voice samples to the appropriate BTS **66** for transmission to the mobile station **70a**. See column 17, lines 45-48.)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-5, 7-11, and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bollinger et al. (US 5,278,892), hereinafter referred to as Bollinger, in view of Schneider (US 6,570,871 B1).

Regarding claim 2 as explained above in the rejection statement of claim 1, Bollinger discloses all of the claim limitations of claim 1 (parent claim). Bollinger further discloses *combining upper layer packets with data at said processed layer to produce lower layer data packets* (Referring to Figure 3, at cell 202 every digital radio's signal input and output are interfaced to TDM bus 140, inherently comprising multiplexing which by definition is a layer function which maps some number of upper layer tributaries onto a single lower layer aggregate. See column 11, lines 36-38.) Bollinger does not disclose *adding a label to said lower layer data packets to produce remote layered data packets*.

Schneider teaches a gateway interface 74 comprising a packet assembler/disassembler (PAD) 218 that packetizes the digital voice samples into data packets and assigns a destination address to the data packet (See column 15, lines 16-20.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to

Art Unit: 2662

outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claim 3 as explained above in the rejection statement of claim 1, Bollinger discloses all of the claim limitations of claim 1 (parent claim). Bollinger does not disclose *adding an internet protocol header to the remote layered data packet so as to create an internet protocol encapsulated packet.*

Schneider teaches a gateway interface **74** comprising a packet assembler/disassembler (PAD) **218** that packetizes the digital voice samples into data packets and assigns a destination address to the data packet, inherently comprising an TCP/IP header for transmission over the Internet (See column 15, lines 16-20.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claim 4 as explained above in the rejection statement of claim 1, Bollinger discloses all of the claim limitations of claim 1 (parent claim). Bollinger does not disclose *sending said encapsulated packet to the second node via an internet protocol network.*

Schneider teaches a gateway interface **74** comprising a packet assembler/disassembler (PAD) **218** that packetizes the digital voice samples into data packets and assigns a destination address to the data packet (See column 15, lines 16-20.)

Art Unit: 2662

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claims 5 and 8 as explained above in the rejection statement of claims 1 and 6; Bollinger discloses all of the claim limitations of claims 1 and 6 (parent claims). Bollinger does not disclose *relaying said remote layered packets to said target node (claim 1)/sending said IP encapsulated packet via an internet protocol network to the target base station (claim 8).*

Schneider teaches a gateway interface **74** comprising a packet assembler/disassembler (PAD) **218** that packetizes the digital voice samples into data packets and assigns a destination address to the data packet (See column 15, lines 16-20.) Schneider further teaches router **212** outputs the assigned data packets onto the Internet **72** for reception by a networking node corresponding to the destination address in the packets (See column 15, lines 25-29.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claim 7 as explained above in the rejection statement of claim 1, Bollinger discloses all of the claim limitations of claim 1 (parent claim). Bollinger further discloses *combining, at the serving base station, upper layer packets with data at said processed layer to*

Art Unit: 2662

produce lower layer data packets (Referring to Figure 3, at cell 202 every digital radio's signal input and output are interfaced to TDM bus 140, inherently comprising multiplexing, at the base station, which by definition is a layer function which maps some number of upper layer tributaries onto a single lower layer aggregate. See column 11, lines 36-38.) Bollinger does not disclose *adding a label to said lower layer data packets to produce remote layered data packets and adding an internet protocol header to the remote layered data packet so as to create an internet protocol encapsulated packet.*

Schneider teaches a gateway interface 74 comprising a packet assembler/disassembler (PAD) 218 that packetizes the digital voice samples into data packets and assigns a destination address to the data packet, inherently comprising an TCP/IP header for transmission over the Internet (See column 15, lines 16-20.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claim 9, the primary reference further teaches:

Comparing the data received from the serving base station with the data received from said target base station (Referring to Figure 9, comparing the sequence numbers of two received packets, processor 602 can immediately determine whether both packets correspond. See column 31, lines 39-42.)

If said step of comparing indicates a match, then combining the data (Referring to Figure 9, if receive times fall inside window **1302**, processing is inherently completed without further comparison of reception time. See column 30, lines 42-45.)

If said step of comparing does not indicate match, then further comparing N data blocks from the serving base station with the target base station until a match is obtained (Referring to Figure 9, times that lead can be compensated for by buffering of the prematurely-received packets. See column 31, lines 6-9.)

Regarding claim 10 as explained above in the rejection statement of claim 6, Bollinger discloses all of the claim limitations of claim 1 (parent claim). Bollinger further discloses *wherein N is greater than or equal to three (3)*.

Bollinger teaches that lead times can be compensated for by buffering of the prematurely received packets (See column 31, lines 6-9.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement buffering of at least 3 prematurely received packets in the system of Bollinger. One of ordinary skill in the art would have been motivated to do so in order to further ensure proper timing synchronization. And, in so doing unexpected results are not produced.

Regarding claim 11, Bollinger discloses a mobile telephone system call processing arrangement for soft hand-off, which comprises:

Means for producing upper layer data/An element for combining said upper layer data with lower layer data, said element having first and second outputs onto which said combined data appears (Referring to Figure 3, at cell **202** every digital radio's signal input and output are interfaced to TDM bus **140**, inherently comprising multiplexing which by definition is a layer

Art Unit: 2662

function which maps some number of upper layer tributaries onto a single lower layer aggregate, with outputs to DS1 Interfaces **242**. See column 11, lines 36-38.) Bollinger does not disclose *means for adding a label to the first of said combined data to produce labeled data, means for encapsulating said labeled data to produce encapsulated data, and means for transmitting said encapsulated data over an Internet Protocol network.*

Schneider teaches a gateway interface **74** comprising a packet assembler/disassembler (PAD) **218** that packetizes the digital voice samples into data packets and assigns a destination address to the data packet, inherently comprising an TCP/IP header for transmission over the Internet (See column 15, lines 16-20.) Schneider further teaches router **212** outputs the assigned data packets onto the Internet **72** for reception by a networking node corresponding to the destination address in the packets (See column 15, lines 25-29.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claim 13, Bollinger discloses a mobile telephone system call processing arrangement for soft hand-off, which comprises:

A serving base station for said mobile/At least one target base station for said mobile/Means for transmitting a data packet unit from said serving base station to said mobile (Referring to Figure 23, notification is sent from the first service node to the second service node, inherently comprising serving base station and destination base station, and in response a

packet-switched call path is setup. See column 4, lines 16-20.) *Means for transmitting a copy of said data packet unit from said base station to said at least one target base station* (Referring to Figure 23, duplicate call traffic of the call is communicated between both the first and second service nodes across the packet-switched call paths. See column 4, lines 23-27.) *Means for transmitting said copy from said at least one target base station to said mobile together with said data packet unit from said serving base station* (Referring to Figure 19, a second cell **202** commences to handle the call in parallel with cell **202**, inherently comprising combining duplicate traffic from the packet-switched call path and neighboring cell at the mobile user terminal, for a soft handoff. See column 30, lines 37-40.) Bollinger does not disclose *an internet protocol network*.

Schneider teaches a gateway interface **74** comprising a packet assembler/disassembler (PAD) **218** that packetizes the digital voice samples into data packets and assigns a destination address to the data packet, inherently comprising an TCP/IP header for transmission over the Internet (See column 15, lines 16-20.) Schneider further teaches router **212** outputs the assigned data packets onto the Internet **72** for reception by a networking node corresponding to the destination address in the packets (See column 15, lines 25-29.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claim 14, the primary reference further teaches *serving base station including means for producing remote layered data packets for said data packet unit* (Referring to Figure 3, at cell **202** every digital radio's signal input and output are interfaced to TDM bus **140**, inherently comprising multiplexing which by definition is a layer function which maps some number of upper layer tributaries onto a single lower layer aggregate. See column 11, lines 36-38.)

Regarding claim 15 as explained above in the rejection statement of claim 13, Bollinger and Schneider disclose all of the claim limitations of claim 13 (parent claim). Bollinger does not disclose *serving base station includes means for forming an encapsulated internet protocol packet comprising said copy of said data packet unit, a switching label, and an internet protocol destination address corresponding to said at least one target base station.*

Schneider teaches a gateway interface **74** comprising a packet assembler/disassembler (PAD) **218** that packetizes the digital voice samples into data packets and assigns a destination address to the data packet, inherently comprising an TCP/IP header for transmission over the Internet (See column 15, lines 16-20.) Schneider further teaches router **212** outputs the assigned data packets onto the Internet **72** for reception by a networking node corresponding to the destination address in the packets (See column 15, lines 25-29.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Art Unit: 2662

Regarding claim 16 as explained above in the rejection statement of claim 13, Bollinger and Schneider disclose all of the claim limitations of claim 13 (parent claim). Bollinger does not disclose *target base station includes means for removing said internet protocol destination address from said copy of said data packet unit and means responsive to said switching label for determining an outgoing channel to said mobile.*

Schneider teaches a PAD 218, which extracts the payload data of the digital voice sample segments from the IP packet comprising a destination identified by the packet, and a MSC, which routes the digital voice samples to the appropriate BTS 66 for transmission to the mobile station 70a in response to the destination identified by the data packet (See column 17, lines 45-48.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

Regarding claim 17, Bollinger discloses a mobile telephone system call processing arrangement for soft hand-off, which comprises:

Means for transmitting a data packet unit from said serving station to said mobile
(Referring to Figure 23, notification is sent from the first service node to the second service node, inherently comprising serving base station and destination base station, and in response a packet-switched call path is setup. See column 4, lines 16-20.)

Means at said base station for combining upper layer packets with data at one layer to produce lower layer packets, for adding a label to said lower layer data packets to produce a remote layered data packet/Means for transmitting said packet to said target base station

(Referring to Figure 3, at cell 202 every digital radio's signal input and output are interfaced to TDM bus 140, inherently comprising multiplexing which by definition is a layer function which maps some number of upper layer tributaries onto a single lower layer aggregate. See column 11, lines 36-38.)

Means, at said mobile, for combining said copy of said data packet unit from said target station with said data packet unit from said serving base station to effectuate the soft hand off

(Referring to Figure 19, a second cell 202 commences to handle the call in parallel with cell 202, inherently comprising combining duplicate traffic from the packet-switched call path and neighboring cell at the mobile user terminal, for a soft handoff. See column 30, lines 37-40.)

Bollinger does not disclose *adding a header to said remote layered data packet, to produce an encapsulated internet protocol packet including a copy of said data packet unit.*

Schneider teaches a gateway interface 74 comprising a packet assembler/disassembler (PAD) 218 that packetizes the digital voice samples into data packets and assigns a destination address to the data packet, inherently comprising an TCP/IP header for transmission over the Internet (See column 15, lines 16-20.) Schneider further teaches router 212 outputs the assigned data packets onto the Internet 72 for reception by a networking node corresponding to the destination address in the packets (See column 15, lines 25-29.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the call processing method of Bollinger in the system of Schneider. One

Art Unit: 2662

of ordinary skill in the art would have been motivated to do so in order to complete calls to outside networks without requiring access to the public switched telephone network in order to minimize potential landline charges as taught by Schneider (See column 3, lines 39-45.)

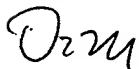
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills



February 21, 2004



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